Charlotte Mecklenburg Industrial Land Use and Jobs Analysis

November 1, 2021

1

Agenda

- Project Overview
- Executive Summary
- Strategies for Successful Growth
- Industrial Corridors of Opportunity & 2040 Comp Plan Application
- Discussion

2

Project Overview – Designed to Inform How to Position Area for Growth & Expansion

INDUSTRIAL SECTOR TRENDS

U.S.	U.S.
4%	**3%**
5 Yr. Historical Growth Rate	5 Yr. Projected Growth Rate
13% Charlotte MSA	**5%** Charlotte MSA

9 Target Industrial Industries

MANUFACTURING-RELATED TARGET INDUSTRIES

1. Advanced Manufacturing
2. Biological Product Manufacturing
3. Food Manufacturing
4. Plastics Product Manufacturing

MATERIAL MOVING TARGET INDUSTRIES

5. Air Transportation
6. Freight and Consumer Transportation
7. Wholesalers – B2B
8. Wholesalers – Consumer Focused

CONSTRUCTION TARGET INDUSTRY

9. Construction Companies

3

PROJECT OVERVIEW – APPROACH

C&W performed the following five steps to create a targeted strategy for industrial attraction and retention that aligns with the site selection needs and growth trends of this broad sector.

1 UNDERSTANDING THE CURRENT STATE

What is the current situation and what are our key success factors for the future?

- Define current state of the industrial market
- Stakeholder feedback
- Establish success measures

2 LABOR MARKET ASSESSMENT

What are my unique geographical/labor benefits?

- Identify optimal targeted industrial industries / job functions
- Assess the site selection criteria and wage positioning for these targeted industries
- Identify skills benefits and mismatches
- Evaluate advantages / disadvantages for these labor profiles
- Evaluate the impact of evolving technologies

3 FORECASTING GROWTH

Given historical and current growth trends, what is the forecasted demand for industrial buildings?

- Evaluate emerging industrial growth trends for the city and county

4 CAPACITY AND ABSORPTION ASSESSMENT

How are we positioned to respond to expected growth and what can we do to improve our position?

- Evaluate expected ability to absorb projected growth based on current market conditions
- Assess factors that can be addressed to improve expected absorption

5 DEVELOP TARGETED STRATEGY

How do we position ourselves for successful growth?

- Determine where industrial should growth occur
- Identify the critical infrastructure needed to support expected growth
- Evaluate how to best position the city and county to attract target industries
- Identify industrial corridors of opportunity

Define Objectives → Value Capture Opportunities → Strategize and Plan

4

5

EXECUTIVE SUMMARY – KEY FINDINGS

Market performance data, industrial occupier site selection requirements and growth/capacity assessments have been combined to identify specific opportunities for the Charlotte-Mecklenburg team to build on in strategy development

1 FOCUS ON USER TYPES THAT FIT MECKLENBURG COUNTY

- Industrial development driven by **structural changes** will keep demand high, but many will seek large, well-positioned sites outside Mecklenburg County.
- Charlotte's **diminishing development areas** will require a focus on niche users with smaller space requirements and access to the population center.

2 BUILD STRATEGY AROUND 9 TARGET INDUSTRIES

- Charlotte-Mecklenburg excels in 9 target industries due to **demonstrated growth and specialization**.
- Positioning real estate, infrastructure and **policies around the needs of these users** will best support growth and retention.

3 SUPPORT EXISTING MANUFACTURERS

- Existing companies are looking at new build sites in the urban periphery for **more space at a low cost**.
- **Pre-emptively work with existing target industries** and high-growth companies to keep them in Mecklenburg County.

4 EMBRACE THE MANUFACTURING EVOLUTION

- **Manufacturing will evolve into higher-tech**, niche operations with greater automation, lower headcount and higher skills requirements.
- **Work with educators and the public** to communicate the future of this sector is cleaner, technology-driven and requiring different skillsets.

5 OPEN THE TOOLBOX TO MINIMIZE BARRIERS TO ENTRY

- Industrial growth could easily shift to surrounding areas with **lower barriers to entry** and ample land.
- **Examine development approval processes and zoning requirements** to ensure negative externalities are addresses without placing an undue burden on operators.
- **Update the incentive programs** to better address the changing nature of industrial operations.

6

STAKEHOLDER SUMMARY

UNDERSTANDING THE CURRENT STATE 1

KEY FINDINGS FROM STAKEHOLDER FOCUS GROUPS

REGIONAL POSITIONING

- Accessibility, labor pool and growing population are Charlotte's strengths
- Existing users looking to expand are evaluating industrial space in surrounding counties and South Carolina where there are more land and building options and lower prices. Surrounding counties are Charlotte's primary competition.

INDUSTRIAL GEOGRAPHY & SUPPLY

- West Airport and Southwest submarket have historically been most prominent submarkets but North has developed rapidly & is quickly running out of land
- Supply of available industrial space is limited across all sizes
- Rental rates are rising
- Outdated product is leasing as-is limiting the opportunity for costly redevelopment
- Some in-town industrial product zoned I-2 is being eliminated due to demand from mixed use residential redevelopment forcing some tenants to look further outside the urban core
- Disruptions in the global supply chain & material shortages are delaying development delivery timelines

INDUSTRIAL USER DEMAND

- Manufacturers don't have time to wait for built-to-suit causing speculative developments to be in high demand
- Users need more trailer parking and higher parking ratios for the sharp increase in employment
- Rise in e-commerce and last mile distribution is increasing space needs by building
- Some advanced manufacturing sites offer typical amenities found in traditional office spaces leading companies to seek new Class A flex product. Flex space with front office is in high demand for some manufacturers and wholesalers.
- Ceiling heights have increased from 28' to 32-34', limiting the usability of older product

TOOLS TO INFLUENCE CHANGE

- Streamlining the permit process will have the biggest impact since speed to market is an occupier's leading concern
- County and City business development teams need to work in partnership with others in the regulatory and development process
- Don't limit developers to certain uses and reduce restrictions on trailer parking
- Increase awareness of manufacturing jobs to increase talent pipeline
- Continue being an ally with developers & advocate for industrial uses over residential as appropriate

7

INDUSTRIAL MARKET TRENDS

UNDERSTANDING THE CURRENT STATE 1

NATIONAL TRENDS

1 DEMAND TO REMAIN STRONG

- Industrial space demand will remain strong across the nation with new supply leasing quickly. Vacancy rates will remain low and rental rates will continue to rise.
- Strong demand has created a tight labor market, with companies struggling to fill positions across the nation.

2 E-COMMERCE DRIVING GROWTH

- Rapid growth in e-commerce and logistics has resulted in strong demand for warehouse space.
- Larger blocks of space are being leased and industrial users increasingly prefer speculative development to improve their speed to market.

3 DEVELOPERS CAN'T BUILD FAST ENOUGH

- Speculative development has accelerated as completed properties have leased quickly both across the U.S. and in Charlotte.
- Supply chain issues are limiting developers' ability to build quickly enough to meet user demand.

CHARLOTTE TRENDS

4 CLT MARKET GROWING QUICKLY & SEEING SAME TRENDS AS U.S.

- Charlotte experienced record absorption in 2020 and is on track to match or surpass that figure in 2021. As a result, rental rates are rising and vacancy remains low.
- Warehouse users account for vast majority of activity and is most prominent in North, Southwest and West Airport submarkets.
- While activity for larger users is picking up, Charlotte continues to see notable activity from smaller tenants.

5 SPEC DEVELOPMENT PIPELINE IN MECKLENBURG

- Under construction spec space is concentrated in the North submarket with most proposed projects in the West Airport, North and Southwest submarkets.
- Based on current projects under construction, just 1.23 MSF of new supply will hit the market in 2022 in Mecklenburg County – far below the 5-yr average of 4.7 MSF.

6 SURROUNDING COUNTIES WELL POSITIONED FOR DEVELOPMENT

- Mecklenburg County has seen stronger absorption compared to York and Cabarrus Counties, however with just 23% of total SF under construction in the metro region located in Mecklenburg County, the surrounding counites will likely see increased activity.

8

LABOR MARKET – JOB SKILLS ASSESSED FOR THE TARGET INDUSTRIES

The nine identified target industries rely on a short list of skills, categorized by Bureau of Labor Statistics occupation categories. The target industries can be grouped by similar labor needs in Construction, Manufacturing, Material Moving and All Industries.

CONSTRUCTION LABOR CATEGORY

- Construction companies

- Construction Laborers
- Construction Managers
- First-Line Supervisors of Construction Trades and Extraction Workers
- Heating, Air Conditioning, and Refrigeration Mechanics and Installers
- Operating Engineers and Other Construction Equipment Operators
- Plumbers, Pipefitters, and Steamfitters

MANUFACTURING LABOR CATEGORY

- Advanced Manufacturing
- Biological Product Manufacturing
- Food Manufacturing
- Plastics Product Manufacturing

- Cutting, Punching, and Press Machine Setters, Operators, and Tenders, Metal and Plastic
- Electrical, Electronic, and Electromechanical Assemblers, Except Coil Winders, Tapers, and Finishers
- First-Line Supervisors of Production and Operating Workers
- Industrial Engineers
- Industrial Machinery Mechanics
- Inspectors, Testers, Sorters, Samplers, and Weighers
- Mechanical Engineers
- Miscellaneous Assemblers and Fabricators
- Packaging and Filling Machine Operators and Tenders
- Welders, Cutters, Solderers, and Brazers

MATERIAL MOVING LABOR CATEGORY

- Air Transportation
- Freight and Consumer Transportation
- Wholesalers – B2B
- Wholesalers – Consumer Focused

- Cargo and Freight Agents
- Customer Service Representatives
- First-Line Supervisors of Office and Administrative Support Workers
- First-Line Supervisors of Transportation and Material Moving Workers, Except Aircraft Cargo Handling Supervisors
- Heavy and Tractor-Trailer Truck Drivers
- Industrial Truck and Tractor Operators
- Light Truck Drivers
- Packers and Packagers, Hand
- Shipping, Receiving, and Inventory Clerks
- Stockers and Order Fillers

JOB TITLES APPLYING TO ALL TARGET INDUSTRIES

- General and Operations Managers
- Sales Representatives Wholesale and Manufacturing, Except Technical and Scientific Products
- Office Clerks, General
- Laborers and Freight, Stock and Material Movers, Hand

NATIONAL LABOR TRENDS IN THE INDUSTRIAL SECTOR

LABOR MARKET ASSESSMENT 2

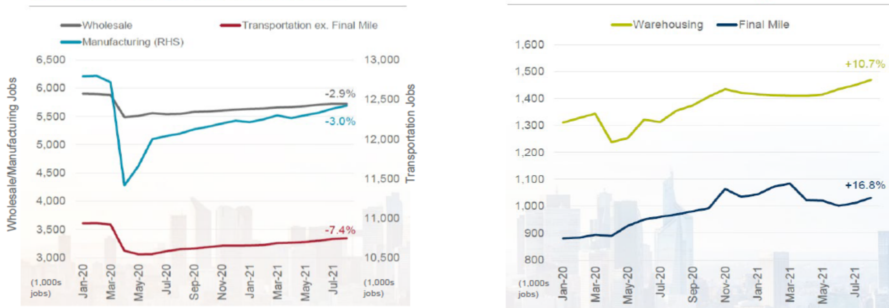
All sectors are experiencing a tight labor market with 30% of the labor force not working due to pandemic-related reasons. Employment is expected to recover to pre-pandemic levels by Q2 2022.

- Industrial occupiers of all types are **experiencing labor shortages due to increased demand**. The pandemic has only exacerbated the situation. **Non E-Commerce transportation jobs has been the slowest to recover** while E-Commerce jobs (including Warehousing and Final Mile) have grown 10-17% since March 2020.
- The **manufacturing skills gap** in the U.S. could result in 2.1 million unfilled jobs by 2030. Companies are having **difficulty filling higher level positions in addition to entry-level roles**. However, most manufacturing jobs lost during the pandemic have been recouped.

Industrial Sector Job Changes Since COVID-19 (Non E-commerce vs. E-commerce jobs)

Non E-commerce: 89.7% of all industrial jobs

E-commerce: 10.3% of all industrial jobs



Sources: Cushman & Wakefield Research; Deloitte & The Manufacturing Institute

INDUSTRIAL REAL ESTATE REQUIREMENTS

GROWTH & CAPACITY ASSESSMENT 3 & 4

The nine target industries can be grouped into three general asset types. Site selection criteria can be used as a guide in attraction/retention efforts and land use policy.

	MANUFACTURING	MATERIAL MOVING/ WAREHOUSE	CONSTRUCTION/ WHOLESALE
TYPICAL SIZE	100,000 – 300,000 SF (regardless of existing user or new entrant to market)	200,000 – 2,000,000 SF (most users are new to market)	<100,000 SF (regardless of existing user or new entrant to market)
ONSITE FEATURE	• Deeper building requirements (compared to distribution) • Some require lower ceiling height for less space to heat/cool	• Minimum 32' clear ceiling height • Ample car parking and trailer storage • Rectangular bldg. with ample docks	• Small front office and/or customer-facing area
AREA INFRA-STRUCTURE	• Access to interstates and highways • Access to fiber • Heavy power capacity and redundancy *(some users)* • Heavy water capacity *(some users)*	• Immediate access to interstates and highways	• None
LOCATION PREFERENCE	• Less sensitivity to geography within a metro region • Access to skilled labor pool • Site where the economics of building cost and size are aligned	• Access to low-skilled labor pool • Periphery of a metro area where large land sites are plentiful and access to regional markets w/o congestion	• Access to population density in an in-market location

11

INDUSTRIAL REAL ESTATE REQUIREMENTS - REGIONAL TRANSPORTATION ASSETS

GROWTH & CAPACITY ASSESSMENT 3 & 4

The Charlotte metropolitan region has numerous transportation assets that provide excellent connectivity to consumers and the Southeast, providing the critical site selection infrastructure for industrial users.

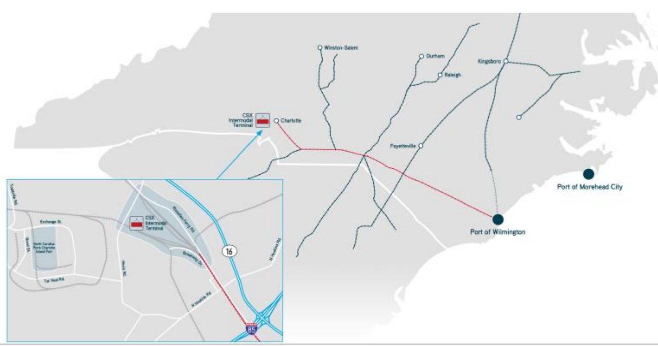
Highways: Interstates 77 and 85 provide direct access to consumer population and cities throughout the southeastern corridor.

Airport: Charlotte Douglas International Airport is the10th busiest in the nation based on passenger totals.

Ports: North Carolina Ports Charlotte Inland Port has direct connectivity with the Port of Wilmington.

Intermodal Facilities: CSX Intermodal and Norfolk Southern provide direct access to major distribution corridors in the Southeast.

CHARLOTTE DOUGLAS INTERNATIONAL AIRPORT



12

INDUSTRIAL DEMAND SUMMARY

GROWTH & CAPACITY ASSESSMENT 3 & 4

OVERALL FINDINGS

At a regional level, industrial supply is in line with user demand. However, supply constraints emerge when examining asset types and demand for submarkets within the region.

DEMAND FINDINGS

- **Overall Demand** - Overall demand is anticipated to remain strong across the Charlotte region, mirroring strength at the national level.
- **Asset Type Demand -**
  - The majority of demand will be for warehouse/distribution space, in the form of large blocks (200,000+ SF).
  - Demand for manufacturing space remains steady with users typically seeking 100,000+ SF.
  - To a lesser extent, demand will continue for flex space ranging from smaller users to large R&D spaces.
- **Geographic Demand –**
  - Demand is greatest in locations further from the city center in Southwest, West Airport and Cabarrus County.
  - Older, in-market locations will not experience significant demand, particularly from new projects to the market. However, existing companies and those requiring proximity to the customer base will continue to occupy the existing real estate.

13

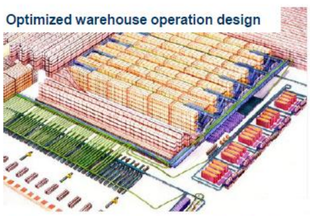
FORECASTING GROWTH AND CAPACITY

Building features of warehouse/distribution space and manufacturing space have become similar as occupiers look to maximize value from the real estate. Whether the primary function is the movement of goods or product manufacturing, the needs of occupiers is similar.

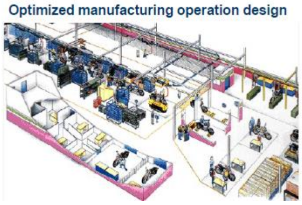
Required building features for both distribution and manufacturing companies include:

1. Large, rectangular spaces with few columns and obstructions
2. Docks for delivery and shipment of product
3. Higher ceilings for product storage

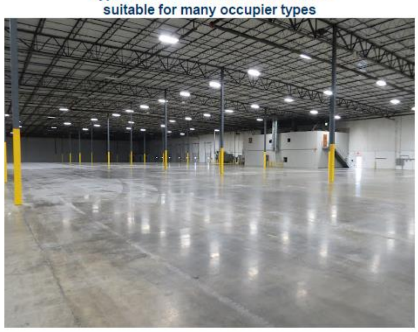
Optimized warehouse operation design



Optimized manufacturing operation design

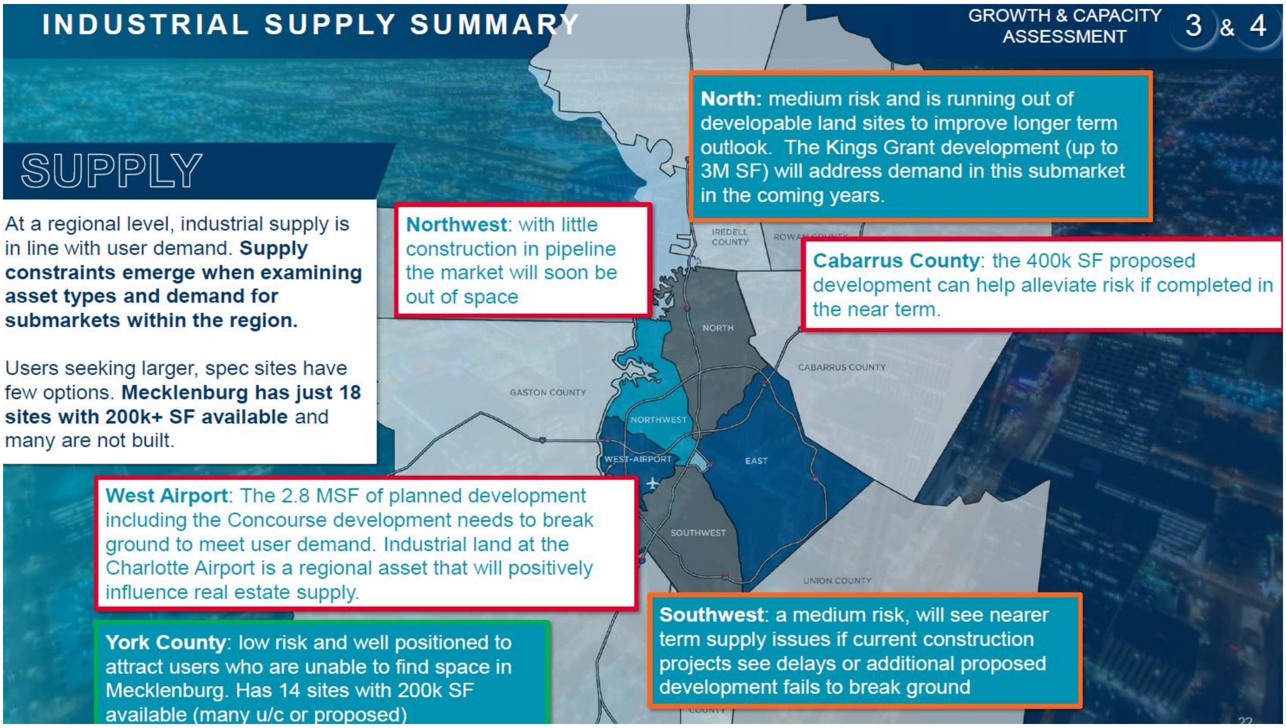


Typical new construction warehouse suitable for many occupier types



Observations:
Traditional manufacturing space supply and planned new development appears to be a small fraction of industrial space in the Charlotte region. However, many manufacturers would evaluate and potentially lease traditional warehouse/distribution space due to the suitability and features of the building for their operations. A recent example is Frito-Lay leasing space at the 243,000 SF Geneva II warehouse on General Drive in the Southwest submarket for manufacturing and distribution purposes.

14


INDUSTRIAL SUPPLY SUMMARY
GROWTH & CAPACITY ASSESSMENT 3 & 4
SUPPLY
At a regional level, industrial supply is in line with user demand. **Supply constraints emerge when examining asset types and demand for submarkets within the region.**
Users seeking larger, spec sites have few options. **Mecklenburg has just 18 sites with 200k+ SF available** and many are not built.
North: medium risk and is running out of developable land sites to improve longer term outlook. The Kings Grant development (up to 3M SF) will address demand in this submarket in the coming years.
Northwest: with little construction in pipeline the market will soon be out of space
Cabarrus County: the 400k SF proposed development can help alleviate risk if completed in the near term.
West Airport: The 2.8 MSF of planned development including the Concourse development needs to break ground to meet user demand. Industrial land at the Charlotte Airport is a regional asset that will positively influence real estate supply.
York County: low risk and well positioned to attract users who are unable to find space in Mecklenburg. Has 14 sites with 200k SF available (many u/c or proposed)
Southwest: a medium risk, will see nearer term supply issues if current construction projects see delays or additional proposed development fails to break ground
IREDELL COUNTY
NORTH
CABARRUS COUNTY
GASTON COUNTY
NORTHWEST
WEST-AIRPORT
EAST
SOUTHWEST
UNION COUNTY

15


STRATEGIES FOR SUCCESSFUL GROWTH

16

TARGETED STRATEGY RECOMMENDATIONS

POSITIONING FOR GROWTH

1. Prepare the Labor Pool for Evolving Requirements
2. Support Existing User Needs
3. Activate Remaining Land Sites
4. Differentiate the Message for New-to-Market Companies
5. Promote Ease of Doing Business

Considering modifications to the incentive programs was suggested to help level the playing field among competing communities and lessen the burden on industrial occupiers in key cost categories.

17

18

APPLICATION TO THE CHARLOTTE 2040 PLAN

CHARLOTTE FUTURE | 2040 COMPREHENSIVE PLAN

The Charlotte 2040 Comprehensive Plan identifies place types representing the range of development and land uses envisioned for the city. Two defined place types are pertinent to this industrial land use study.

PLACE TYPES: MANUFACTURING AND LOGISTICS

2040 Plan Definition: Manufacturing and Logistics places are employment areas that provide a range of job types, services and wage levels in sectors such as production, manufacturing, research, distribution and logistics.

PLACE TYPES: INNOVATION MIXED-USE

2040 Plan Definition: Innovation Mixed-Use places are vibrant areas of mixed-use and employment, typically in older urban areas that capitalize on Charlotte's history and industry with uses such as light manufacturing, offices, studios, research, retail and dining.

19

APPLICATION TO THE CHARLOTTE 2040 PLAN

This industrial study presents demand and supply dynamics for the nine target industries and associated real estate requirements, categorized into the three common industrial asset types. Clearly defined industrial occupier requirements using this lens can be applied to the 2040 Comprehensive Plan for application.

Step 1

NINE IDENTIFIED TARGET INDUSTRIES

- MANUFACTURING-RELATED TARGET INDUSTRIES
- MATERIALS MOVING TARGET INDUSTRIES
- CONSTRUCTION TARGET INDUSTRY

Step 2

THREE INDUSTRIAL ASSET TYPES

- MANUFACTURING
- MATERIAL MOVING/ WAREHOUSE
- CONSTRUCTION/ WHOLESALE

And Their Requirement Categories

- TYPICAL SIZE
- ONSITE FEATURES
- AREA INFRA-STRUCTURE
- LOCATION PREFERENCE

Step 3

TWO RELEVANT 2040 PLAN PLACE TYPES

- MANUFACTURING AND LOGISTICS
- INNOVATION MIXED-USE

- Do plan guidelines support industrial operations and real estate requirements?
- Do plan guidelines potentially limit activities or generate additional costs?
- What place types best fit in identified corridors of opportunity?

20

APPLICATION TO THE CHARLOTTE 2040 PLAN

Summary of 2040 Plan place type guidelines compared to industrial user needs

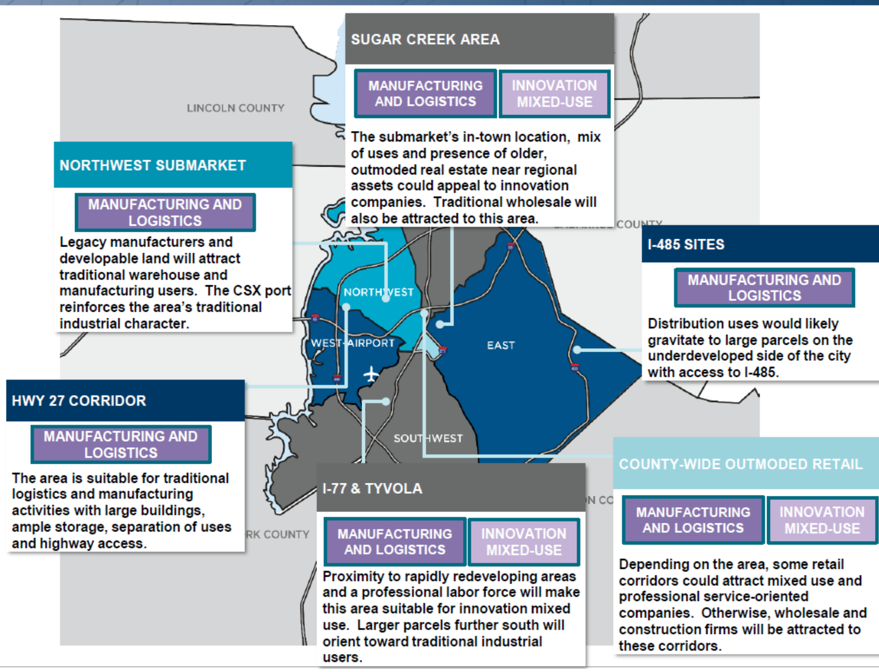
	MANUFACTURING & LOGISTICS	INNOVATION MIXED USE
2040 PLAN DESCRIPTION	Large lots and large scale low-rise buildings, yards and facilities. Accessible by high capacity roads, freight rail and/or airports. Typical high-bay, single-story and large/long manufacturing or warehouse buildings.	Adaptively reused buildings and low to mid-rise single-use and mixed use structures. Accessible by high capacity roads and access by all modes of ravel. Older industrial structures adaptively reused, new bldgs. 6 stories or less.
2040 GUIDELINES SUPPORTIVE OF INDUSTRIAL USER NEEDS	• Large parcels and buildings with onsite storage and ample parking are foundational site selection requirements for most industrial operators. • Advantages include separation from non-industrial uses and an emphasis on trucks for most transportation activities.	• Industrial users with an office (professional occupations) component and/or R&D could benefit from the area amenities, mix of uses and proximity to the consumer base.
2040 GUIDELINES LIMITING INDUSTRIAL ACTIVITY	• None	• Most industrial occupiers do not find value in mixed-use settings of non-industrial users. • Older industrial buildings, particular multi-story, are considered inferior and would present barriers to efficient manufacturing processes.
PLACE TYPE SUMMARY	**Excellent Fit - this place type meets the needs of most target industries**	**Moderate Fit - this place type should only be used for target industries in specific situations for unique user needs**

21

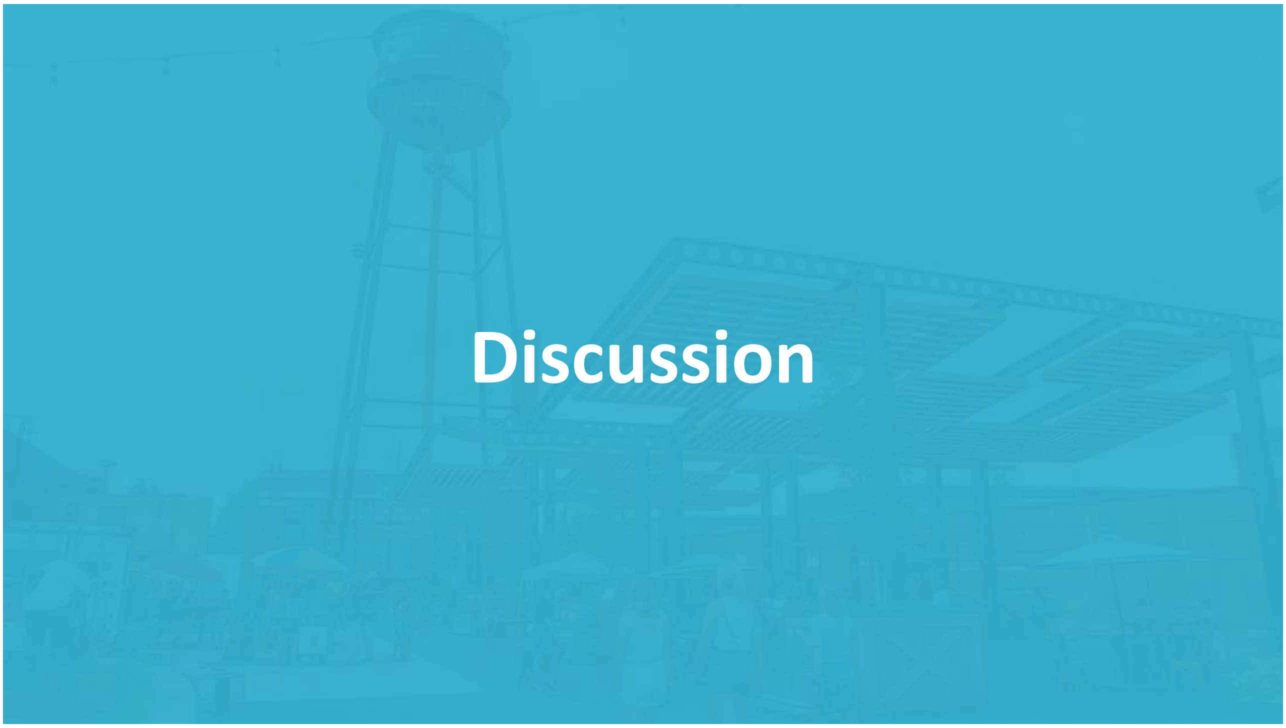
APPLICATION TO THE CHARLOTTE 2040 PLAN

Place type suitability for the identified corridors of opportunity

- The Manufacturing and Logistics place type has applicability throughout the region due to its suitability for a wide range of industrial uses and all target industries.
- The Innovation Mixed-Use place type could be applied to locations near the city core, where industrial companies with an office component or R&D function would naturally locate.
- The map at right shows which place type(s) are suitable for the six industrial corridors of opportunity.



22



23